

Agency 365 – Washington State University
2009-2011 Operating Budget Request

The Land Grant University for the 21st Century
Performance Level Decision Package – Policy Level “EA”

Emerging Issues in Agriculture

Agency Recommendation Summary:

This \$4 million request partners Washington State University with the Washington agriculture industry to address many of the unprecedented multiple challenges the industry faces in 2009. Skyrocketing diesel costs are impacting the ability of farmers to produce their crops and transport them to market. Natural gas increases have led to double-digit increases in fertilizer costs and significantly increased food processing costs. Disease and pest threats such as Honey Bee Colony Collapse Disorder, Sudden Oak Death, Grape Leaf Roller virus, etc. are just some of the new devastating threats to growing crops. Food-borne illness events such as the recent recall of tomatoes and beef products have raised new human health concerns about the safety of our food supply. All these pressures threaten to compromise Washington’s position as a leading agricultural state in a competitive global marketplace. This is especially true when Washington’s industry is trying to compete with foreign producers that have significantly lower costs and regulation.

This proposal adds vital scientific capacity to Washington State University’s ability to respond these unprecedented challenges at this critical time. Priorities in this request were identified by industry leaders throughout the state representing dozens of commodity groups, processors, and associations. Accordingly, this package increases funding for programs such as the Washington State Pesticide Commission. It also bolsters WSU programs at numerous locations around the state. Funding is provided for the university’s research and extension centers in Mount Vernon, Puyallup, Wenatchee, Prosser, and Pullman.

Fiscal Details:

By Fund	2009-10		2010-11		2009-11 Biennium
	FTE	Dollars	FTE	Dollars	Dollars
General Fund State	21.0	2,000,000	21.0	2,000,000	4,000,000
Total	21.0	\$ 2,000,000	21.0	\$ 2,000,000	\$ 4,000,000

Package Description:

Four programs are proposed to address emerging food security issues facing Washington State:

1. Protecting Washington Crops from Emerging Disease and Pests (\$1,300,000)

Funding is requested to:

- a) conduct research and education on Honey Bee Colony Collapse Disorder to position WSU to solve this critical and emergent problem that has the capacity to devastate Washington's tree fruit industry.
- b) address several emerging pest issues including iris yellow spot virus of onion, tuberworm and beet leafhopper of potato, hop looper of hops, High Plains virus of sweet corn, grape leafroller virus in vineyards, and knotweed in riparian zones.
- c) support WSU's Sudden Oak Death Laboratory in Puyallup to protect the state's ornamental tree industry.
- d) strengthen programs servicing the tree fruit and grape industries to assure that any plant material brought into the state is free from plant viruses.
- e) develop a plant and insect diagnostic lab dedicated to serve central and eastern Washington to provide one-on-one assistance in the identification of home, commercial, and agricultural pests.

\$500,000 of this portion of the request goes to the Washington State Commission on Pesticide Registration to conduct research on the safety and efficacy of substitute chemicals and biocontrols to replace important pesticides used in the production of minor crops. WSU is the fiscal agent for this independent commission.

2. Technological Solutions to Address Farm Labor Shortages and Reduce Energy Use (\$600,000)

Funding is requested for two automation and mechanization researchers located at the Irrigated Agriculture Research and Extension Center in Prosser. When paired with existing faculty and facilities, these individuals will spur development of new technologies aimed at reducing farm labor requirements, increasing the number of high-paying jobs, and enhancing farm worker safety.

3. Building Safe and Efficient Local Food Systems (\$500,000)

A value-added agriculture specialist located at the Puyallup Research and Extension Center is requested to focus on food safety and efficiency of community-supported agriculture, farmers markets, and other evolving marketing systems. A BIOAg (biologically intensive and organic agriculture) economist will provide critical analyses required to continue to advance the state's transforming food sector and evaluate rapidly emerging opportunities around organic and sustainable food production, as well as evaluate emerging opportunities around biofuels and bioproducts.

4. Providing Critical Capacity at WSU Research and Extension Centers (\$1,600,000)

Support positions are requested for a manager of the new research orchard at Wenatchee, an organic farm manager in Pullman, and an ag biofuels farm specialist for Eastern Washington experimental fields.

Support personnel for core genomics laboratories aimed at improving the rate and success of introducing new traits into horticultural and small grain varieties developed through WSU's breeding programs are also requested.

Funding in this portion of the request will be directed toward the Irrigated Agriculture Research and Extension Center located in Prosser, the Tree Fruit Research and Extension Center in Wenatchee, the Northwestern Washington Research and Extension Center in Mount Vernon, the Puyallup Research and Extension Center, the Pullman Research Station and three additional research farms located in eastern Washington.

Narrative Justification and Impact Statement

The state's \$30 billion food and agriculture industry contributes 13 percent to the state's economy, including more than \$6 billion of annual farm gate value. The food and agriculture industry employs more than 170,000 people in every corner of the state, making it Washington's No. 1 employer. More than 250 commodities are produced commercially in the state, making Washington's agricultural economy the second most diverse in the nation.

A unique combination of human and physical resources, knit together with science and technology, has made this industry a success. Today, however, agriculture is challenged as never before. Forces such as globalization, high energy costs, reduced labor availability, and environmental pressures all threaten to compromise Washington's position as a leading agriculture state. We can meet this challenge by refocusing on innovative science and technology that enables a more profitable and sustainable harnessing of the region's human and physical resources.

Historically, federal funds have not been readily available to address applied, regionally-focused food and agriculture programs. Private funds are already being utilized, as state agricultural commodity commissions currently provide over \$4 million annually to support WSU food and agriculture programs. Despite its expansive and highly diverse agricultural sector, Washington is 28th in the nation in state appropriations for agricultural research and extension. In addition, despite aggressive reallocation of existing resources, critical gaps remain in research and education activities that will be addressed with this request.

The proposed investment in food and agriculture research and education will conservatively result in \$100 million of economic benefits to the state of Washington over the next several years, and will generate significantly more income in the longer run as research investments generate new technologies that are adopted by industry participants. This estimate was derived by identifying practices and technologies anticipated to be developed from these investments in research and outreach and estimating the additional revenue and/or reduced cost from their adoption. Secondary benefits are estimated using conservative multiplier estimates from economic impact models.

The following potential outcomes have been identified as likely results of this request coupled with additional funding from other sources.

Outcome 1. Protecting Washington Crops from Emerging Disease and Pests

- Identification of the sources of honey bee colony collapse and solutions to this critical problem will assure the sustainability of the honey bee industry and assure the availability of pollinators does not limit the profitability of Washington's horticulture industries.
- Introduction of new biological pest control methods will reduce the use of pesticides and reduce costs of production for the state's agricultural producers.
- Improved plant diagnostic capabilities will reduce yield loss from devastating insects and plant diseases.
- Identification and introduction of alternative, environmentally benign pesticides for Washington's "minor crops" will reduce environmental risk and assure the long-term viability of these industries.
- Programs which effectively screen plant material entering the state will minimize the likelihood of plant virus epidemics which could cripple the state's tree fruit, ornamental plant, or wine grape industries.
- Increased research and screening for the plant pathogen *Phytophthora ramorum*, the source of Sudden Oak Death, will provide critical protection for western Washington's ornamental nursery industry, as well as susceptible native species.

Outcome 2. Technological Solutions to Address Farm Labor Shortages and Reduce Energy Use

- Research and development of automation and mechanization technologies for Washington's horticultural industry will result in substantial reductions in production costs and increased farm worker safety.
- Research and education on alternative crops will provide growers with new crops to introduce into their operations, resulting in enhanced profitability, enterprise diversification, and assure that feedstocks are available for the state's emerging biofuels industry.
- Highly trained labor will be added in high-demand areas such as advanced organic and sustainable agriculture, urban and environmental horticulture, and food science and engineering.
- The introduction of new cropping systems and practices in dryland production regions will reduce on-farm energy requirements and assure the economic viability of farmers in central and eastern Washington.

Outcome 3. Building Safe and Efficient Local Food Systems.

- Research and education programs focusing on value-added business development will lead to an increase in the number and rate of success of new business ventures involving value-added agricultural products.
- Research and education programs focused on community supported agriculture, farmers markets, and other evolving marketing systems, will increase the number of producers serving local markets and suppliers purchasing locally grown products.
- Improved understanding of the health and nutritional characteristics of food products will provide critical information to the industry in meeting consumer demands and adding value to Washington products.
- "Biologically intensive and organic agriculture" research and education programs will provide economically viable alternatives for producers opting for lower input, sustainable production systems.
- New varieties of apples, cherries and other horticultural crops will be developed that are uniquely suited to Washington's climate and growing conditions.

Calculations:

FISCAL DETAIL TABLES - EMERGING ISSUES IN AGRICULTURE					
	2009-10		2010-11		2009-11 Biennium
By Program	FTE	Dollars	FTE	Dollars	Dollars
Instruction					-
Research	17.4	1,642,000	17.4	1,642,000	3,284,000
Public Service	3.6	358,000	3.6	358,000	716,000
Primary Support	-	-	-	-	-
Libraries	-	-	-	-	-
Student Services	-	-	-	-	-
Institutional Support	-	-	-	-	-
Plant	-	-	-	-	-
Total	21.0	\$ 2,000,000	21.0	\$ 2,000,000	\$ 4,000,000
By Object					
Salaries					
Faculty	5.0	390,000	5.0	390,000	780,000
AP	9.0	440,000	9.0	440,000	880,000
TA/GA	2.0	80,000	2.0	80,000	160,000
Classified	5.0	150,000	5.0	150,000	300,000
Benefits		315,000		315,000	630,000
Goods/Services		555,000		555,000	1,110,000
Travel		60,000		60,000	120,000
Equipment		10,000		10,000	20,000
Total	21.0	\$ 2,000,000	21.0	\$ 2,000,000	\$ 4,000,000

Note: Goods and services include funding of \$.5 million for the Washington State Commission on Pesticide Registration.

For more information, contact Larry Ganders, Assistant to the WSU President, Olympia, at 360-534-2333